BÖRGER®

EXCELLENCE – MADE TO LAST

PUMP TECHNOLOGY FOR INDUSTRIAL USE



YOU CAN RELY ON THEM: BÖRGER ROTARY LOBE PUMPS

Market leader for elastomer-coated rotary lobe pumps and experts for individual solutions. We are represented in more than 65 countries and remain on course for growth. Not only are we a global player but also an independent, family-owned and second generation managed company.

"Constantly making things better" has been our guiding principle right from the start. This is evident by the quality, durability and ease of maintenance of our products. Not only has it shaped our company history since 1975 with continuous new developments and innovations, it also is expressed in the honest and reliable partnership with customers, suppliers and staff.

Our pump solutions for industrial use are customized to the specific demand. Whether pumping chemically aggressive and highly viscous fluids, a mobile pump solution or for use in potentially explosive atmospheres – our experienced experts know the requirements, recommend suitable products or develop individual solutions for you. Highest quality "Made in Germany".

BÖRGER®

EXCELLENCE – MADE TO LAST

Börger products are designed for trouble free, continuous operation. We want you to be able to work as effectively as possible. This is the reason why we only offer powerful and durable rotary lobe pumps with unbeatable ease of maintenance features.



PART OF EVERY INDUSTRY
STATIONARY, MOBILE OR SUBMERGED

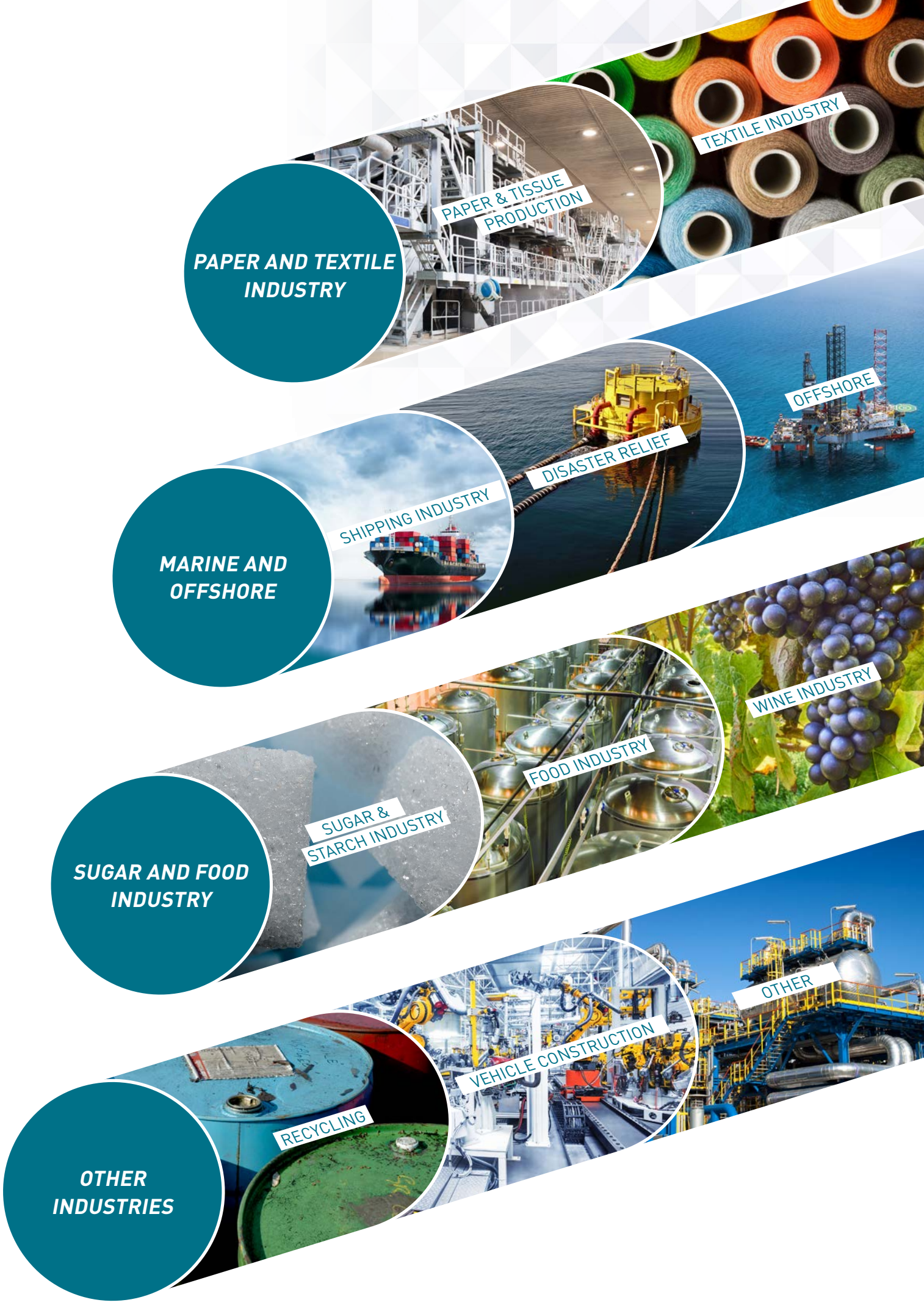
Whether on a drilling platform, in a sugar factory or in an EX area of a chemical company, Börger rotary lobe pumps are used in almost all industrial sectors.

Due to the wide spectrum of pump sizes, materials and sealing solutions, we are perfectly suited for a wide variety of applications with different fluid types, wide flow ranges and local operating conditions. There is a reason our rotary lobe pump has become a synonym for flexibility and individuality.

HIGHEST DEGREE OF PROCESS SAFETY

The pumps offer high performance with low space requirements and minimum energy consumption. Their reliability and durability guarantee market leading system safety to give you peace of mind.

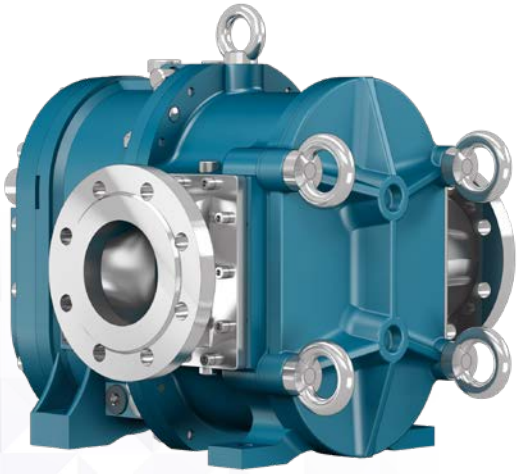



PAPER AND TEXTILE INDUSTRY
PAPER & TISSUE PRODUCTION
TEXTILE INDUSTRY
MARINE AND OFFSHORE
SHIPPING INDUSTRY
DISASTER RELIEF
OFFSHORE
SUGAR AND FOOD INDUSTRY
SUGAR & STARCH INDUSTRY
FOOD INDUSTRY
WINE INDUSTRY
OTHER INDUSTRIES
RECYCLING
VEHICLE CONSTRUCTION
OTHER

PRODUCT OVERVIEW
INDUSTRIAL USE

Börger has been known as a specialist for rotary lobe pumps for more than four decades. We don't see ourselves as a mere pump manufacturer but offer our customers complete solutions.

Each pump unit is manufactured in line with the customer's requirements. Any special pump systems or mobile units are supplied "turn-key". We are up to the challenge. Put us to the test.



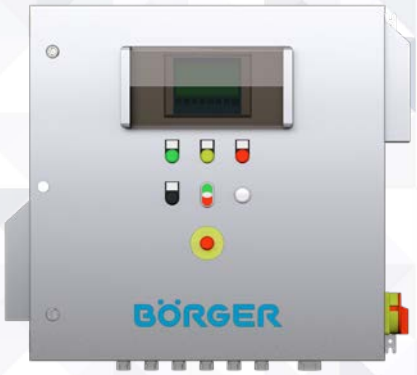
BLUELINE ROTARY LOBE PUMPS

The high reliability and long service life of the BLUEline Legend rotary lobe pump have convinced our customers for more than 35 years.
The BLUEline Nova is the new generation in the BLUEline series. It is a supplement to our product range and sets new standards.



ONIXLINE ROTARY LOBE PUMPS

The ONIXline rotary lobe pump has been designed for pumping demanding media at high pressures. Almost all seal versions have sufficient space in the large sealing area. The perfect complement to the BLUEline pump series.



CONTROL PANEL TECHNOLOGY

On request, we provide a control unit which is perfectly configured for each specific product. The control technology is designed and programmed for the specific unit and its application by the inhouse electrical engineering department.



SUBMERGED PUMPS

Börger rotary lobe pumps can also be designed as vertical pumps. We make an individual solution for each installation length.

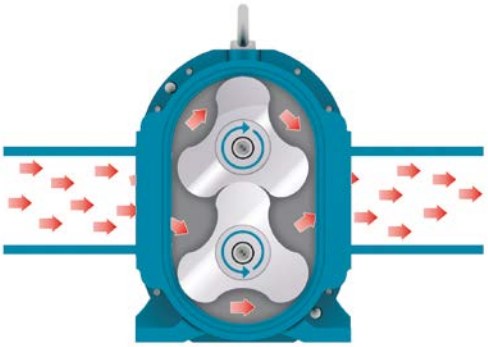


COMPLETE SOLUTIONS

We offer complete solutions. Börger pump units are supplied from a single source. Börger designs and produces the base frame, the pump technology, the entire monitoring sensor system and the control technology themselves.

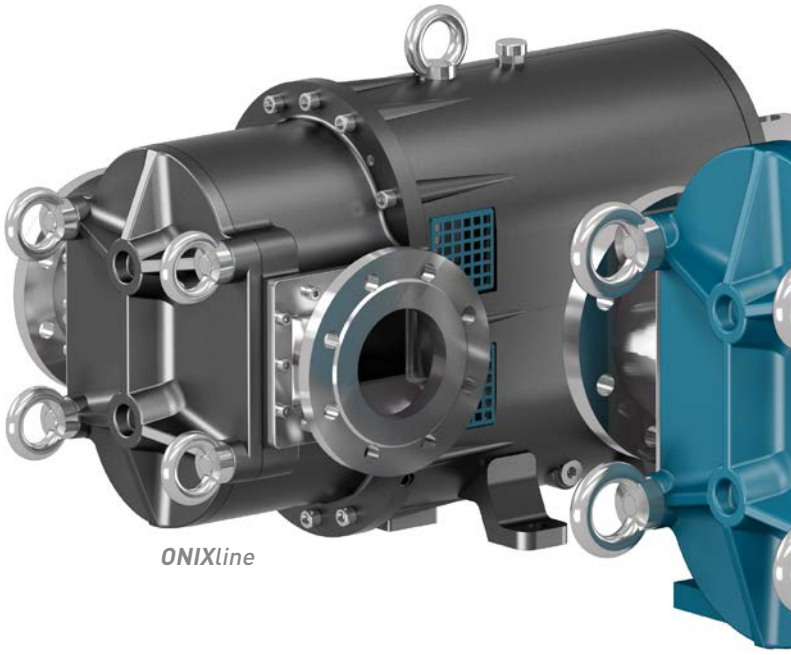
BÖRGER ROTARY LOBE PUMPS
POWERFUL. CUSTOMIZED.

Börger rotary lobe pumps convey different fluids, whether with low or high viscosity, containing solids or pure, chemically aggressive or up to a temperature of 200 °C. Due to the large selection of different materials, rotors and sealing systems, the pumps can be customized.
Our pumps are available in the series of BLUEline and ONIXline with 25 different sizes and flow rates of 1 to 1,440 m³/h – high performance with smallest footprint.

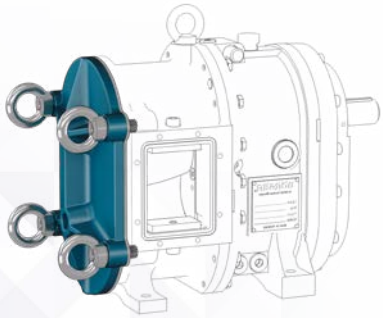


OPERATING PRINCIPLE

Rotary lobe pumps are not sensitive to dry running and are self-priming positive displacement pumps. The synchronized rotation of the rotor pair and the increasing suction chamber create a vacuum on the priming side of the pump. This vacuum draws the liquid into the pump chamber. The pumped medium is conveyed past the pump wall into the pressure area by the rotors. The synchronized rotation of the rotor pair and the decreasing pressure chamber create an overpressure on the discharge side of the pump. The flow direction can easily be reversed by changing the direction of rotation.



***ONIX**line*

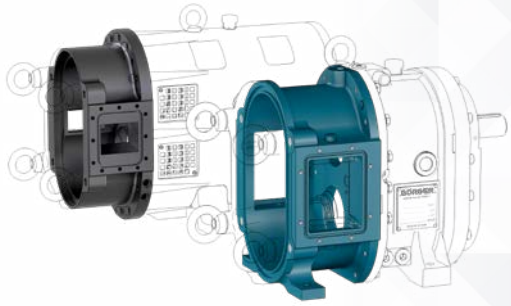


UNRIVALED LOW MAINTENANCE

Due to the cantilevered carrier design of the pump, the wear parts stressed by the pumped media can be replaced through the quick-release cover of the pump. All maintenance work can be done without the need to remove piping and the drive system.

OUTSTANDING RANGE OF MATERIAL

The correct selection of material is important for the durability of a pump. For this reason, all components of our pumps are available in different materials. Using a modular principle, the most resistant material most suitable for the relevant pumped medium is selected for each pump component, from the O-ring to the pump casing.



UNIQUE BLOCK DESIGN

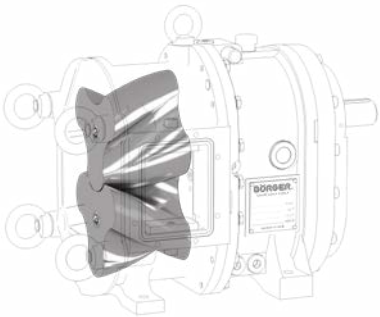
Each rotary lobe pump is equipped with a non-segmented pump and gear casing. This design reflects our high quality standard and guarantees long service life with ease of maintenance. The pump casing can be manufactured in cast iron, cast steel, stainless steel, duplex steel or Hastelloy®.

ROTARY LOBE PUMPS AT A GLANCE

- *+ Flow rate adapted to the speed*
- *+ High performance with smallest footprint*
- *+ Broad range of materials for all pump components*
- *+ Self-priming, pumping in slurp operation*
- *+ Gentle pumping of shear-sensitive media*
- *+ Ease of maintenance (MIP®)*
- *+ Resistant to solids*
- *+ Reversible*

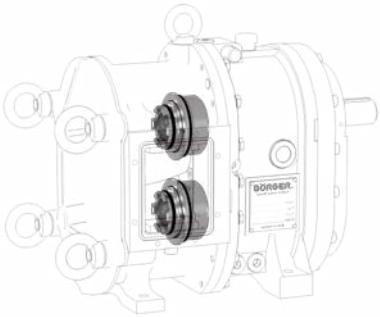


***BLUE**line*



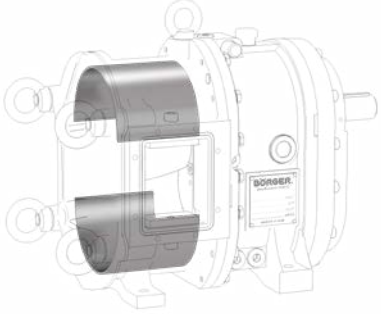
VARIETY OF ROTORS

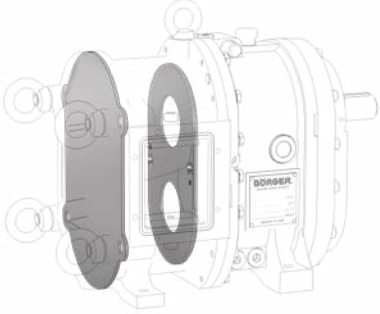
We offer a range of linear and screw rotors differentiated by geometry and material. Whether made of NBR, EPDM, FKM, stainless steel, steel or another material, we offer a suitable rotor for your application. Only single-piece rotors are used – Börger quality down to the last detail.



SEAL SELECTION

Our single- or double-acting mechanical seals are available in different versions and materials. The seals can be replaced very easily through the quick-release cover.





UNIQUE CASING PROTECTION

In order to prevent pump casing damage, e.g. due to abrasive or aggressive fluids, Börger pumps are equipped with casing protection. The unique casing liners and casing protection plates are available in different materials. For conveying pure, non-abrasive media, the Nova series AN, PN and QN are also available as a "clean" version without protection plates and liners.

TRIED AND TESTED. RELIABLE.
THE ***BLUELINE LEGEND***

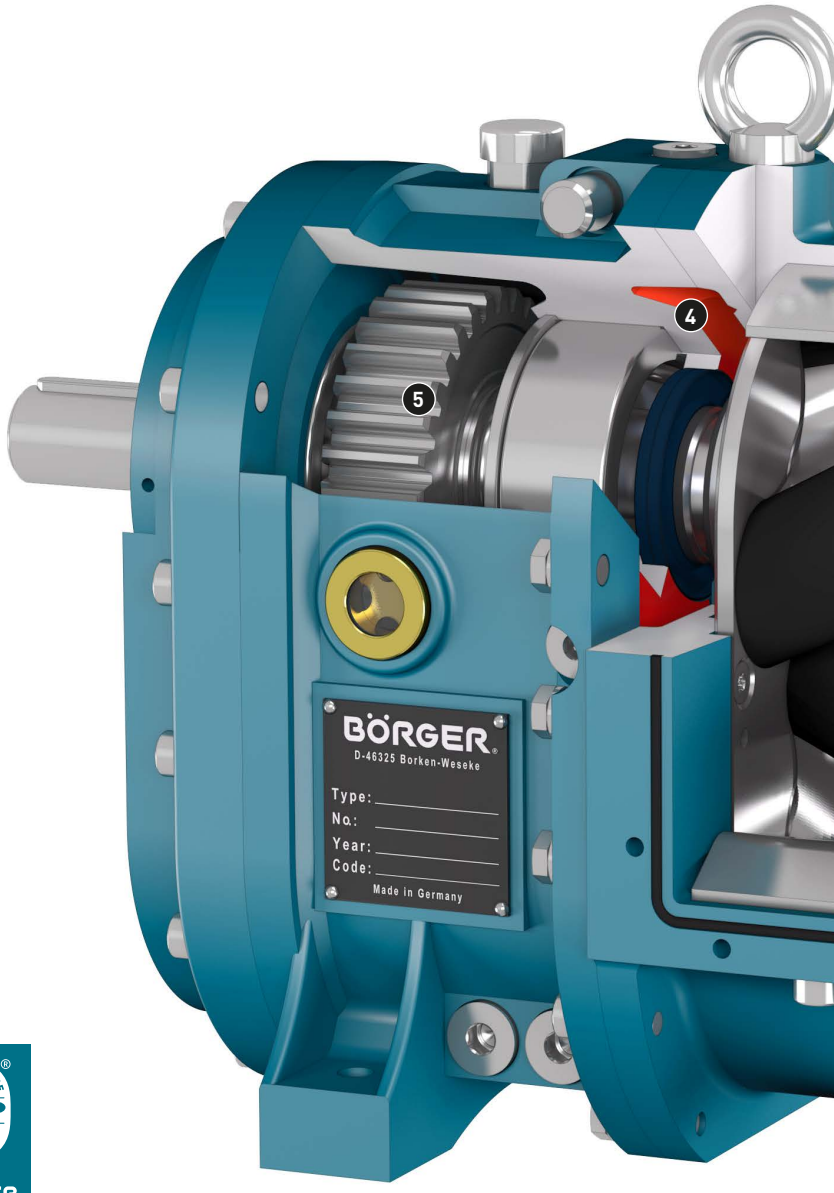


BLUEline pump for conveying cleaning agent

The BLUEline Legend is our proven "continuous runner". The solids-resistant pump has been used successfully in different sectors for many years. The highest reliability and the long service life of the pump convince our customers.

WIDE VARIETY

15 pump sizes in 5 series and the large selection of materials and rotors (different geometric designs and materials) allow an individual design of the pump adapted to your application.



CONSTRUCTIVE BENEFITS

1 ***The quick-release cover***

Access to all wetted parts by simply loosening four ring nuts.

2 ***The rotors***

Large selection of high-quality rotors.

3 ***The casing protection***

Depending on its size, the BLUEline pump is available with and completely without protection plates and liners. When pumping abrasive media containing solids, the protection plates and liners protect the pump casing from wear and can be replaced in a matter of minutes.

4 ***The oil-filled intermediate chamber***

The oil in the quench chamber cools and lubricates the seals. The intermediate chamber protects the gear unit from pumped medium leaking in if the seal is defective.

5 ***The carrier and timing gear***

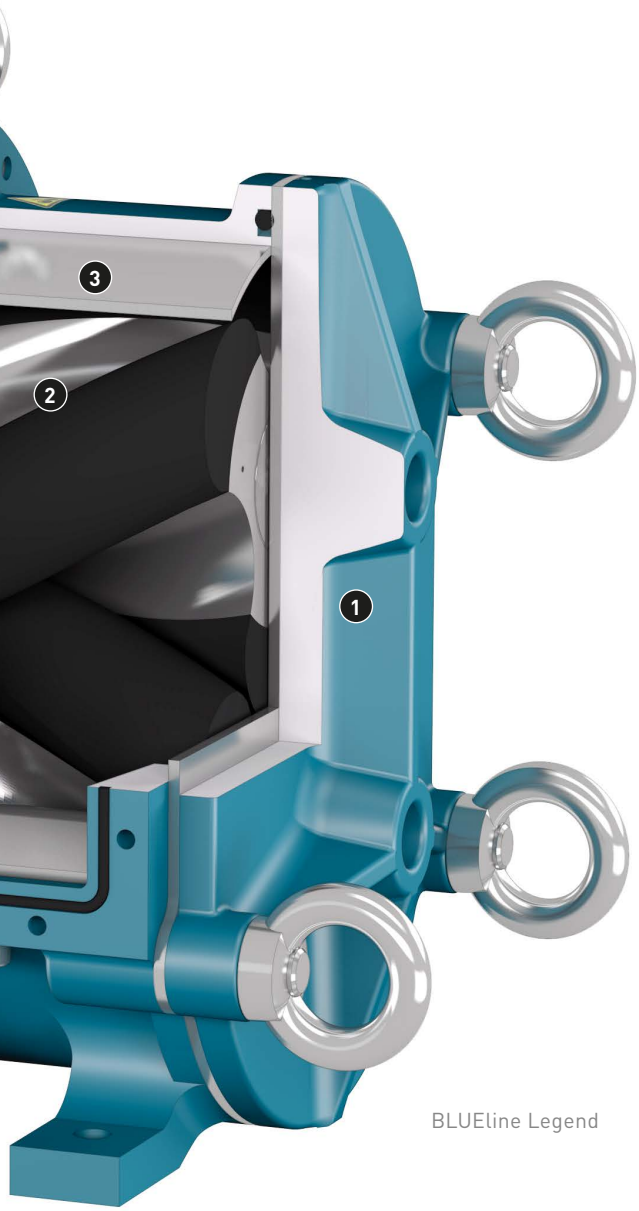
High-quality and maintenance-free carrier and timing gear.

MAINTENANCE® MIP IN PLACE BÖRGER

BLUELINE LEGEND AT A GLANCE

+ 15 sizes
+ With and without casing protection plates and liners
+ Flow rates of 1 – 1,440 m³/h
+ Highest degree of safety due to oil-filled quench chamber as standard
+ Large variety of materials for all components of the pump
+ A suitable rotor for each application

Pump series	Speed in rpm		Flow rate in m³/h		Max. pressure	Max. temp.
	Min.	Max.	Min.	Max.	in bar	in °C
BLUEline Legend PL	1	700	0.11	115	8	to 200
BLUEline Legend CL	1	600	0.23	185	8	to 200
BLUEline Legend FL	1	600	0.34	410	12	to 200
BLUEline Legend EL	1	600	0.62	1,110	10	to 200
BLUEline Legend XL	1	450	1.10	1,440	10	to 200



BLUEline Legend

ROTOR VARIETY

Up to 8 different rotor geometries in various materials are available for each pump size.
Just the removable lobe tips of the patented rotor "Unique" have to be replaced in case of wear.

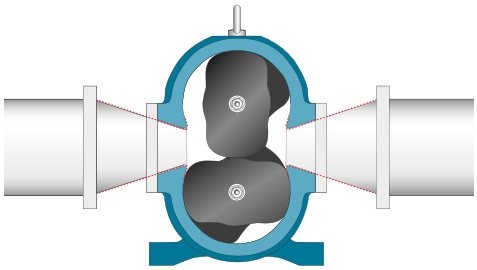


A NEW BLUELINE GENERATION
THE **BLUELINE NOVA**



BLUEline Nova for conveying resin

The BLUEline Nova is the new generation of the BLUEline rotary lobe pumps. It sets new standards in pump technology. The newly developed DIUS rotors in the flow-optimized pump chamber combined with an optimized pump gear unit ensure perfectly smooth running even at high pressures. The Nova pump is available with and completely without protection plates and liners.



MADE FOR ONE ANOTHER – CASING AND ROTORS

With the help of computer flow simulations and physical test bench hours, the geometries of the pump chamber and the rotors were perfectly matched. **The result:** The best volumetric efficiency that has ever been achieved combined with perfectly smooth running even at high pressures.

CONSTRUCTIVE BENEFITS

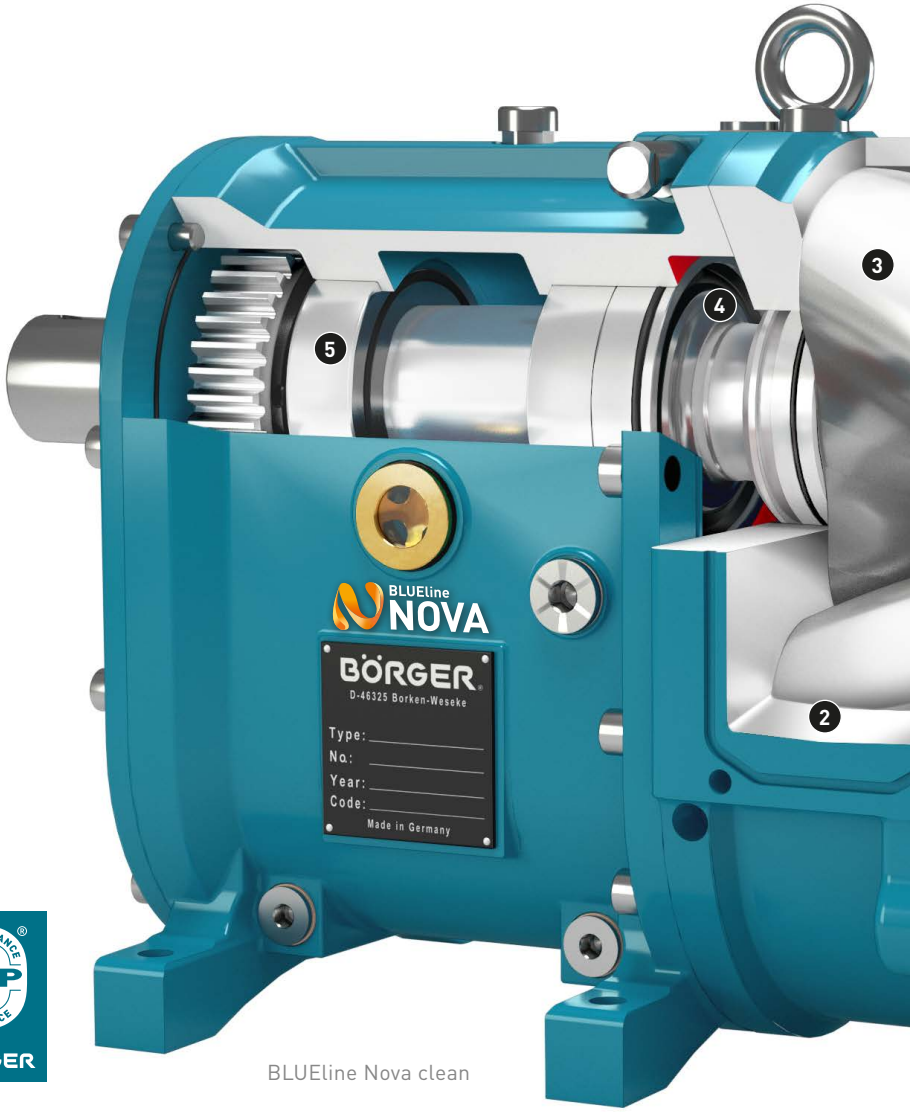
1. ***The quick-release cover***
   Access to all wetted parts by simply loosening four ring nuts.

2. ***The flow-optimized inlet and outlet openings***
   Gentle and turbulence-free pumping of the medium due to flow-optimized inlet and outlet openings.

3. ***The rotors***
   Newly developed DIUS rotors for almost pulsation-free pumping even at high pressures. The wide sealing surface prevents a backflow of the medium and guarantees a volumetric efficiency never achieved before as well as an optimized suction performance.

4. ***The sealing area***
   The large-volume sealing area allows the use of different sealing systems.

5. ***The carrier and timing gear***
   High-quality and maintenance-free carrier and timing gear.



BLUEline Nova clean

BLUELINE NOVA AT A GLANCE

+ With or without casing protection

+ Almost pulsation-free, gentle pumping of sensitive media

+ Excellent volumetric efficiency thanks to the perfect rotor-casing combination

+ Large intermediate chamber for a maximum choice of sealing systems

+ Smooth running even at high pressures

Pump series	Speed in rpm		Flow rate in m³/h		Max. pressure	Max. temp.
	Min.	Max.	Min.	Max.	in bar	in °C
BLUEline Nova AN	1	800	0.03	35	10	to 200
BLUEline Nova PN	1	800	0.06	75	12	to 200
BLUEline Nova QN	1	600	0.14	110	8	to 200

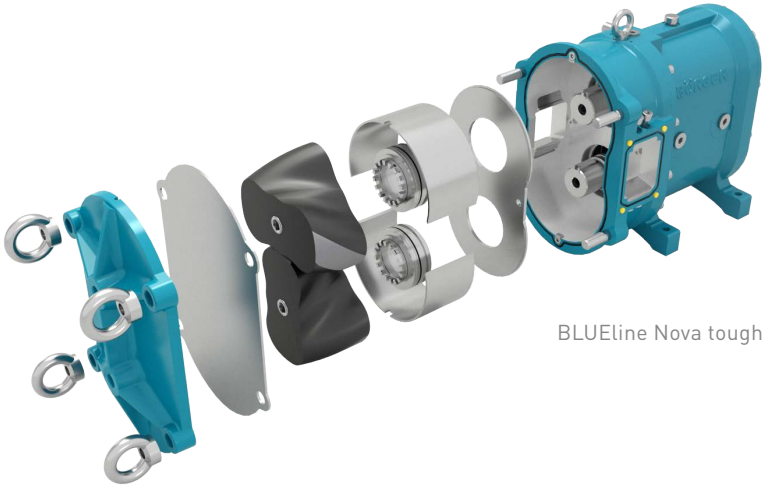


WITH OR COMPLETELY WITHOUT CASING LINING

The BLUEline Nova is available with and completely without protection plates and liners.

The **Nova clean** has been designed for conveying pure, non-abrasive media. A casing protection is not required. The pump with minimum dead space can be cleaned according to the CIP and SIP hygiene procedures.

For conveying abrasive media containing solids, we have developed the **Nova tough**. A radial and axial casing protection protects the entire pump casing. The protection plates and liners are perfectly integrated into the pump casing in a flow-optimized design – ensuring excellent efficiency.



BLUEline Nova tough

UNIQUE. PRESSURE-RESISTANT.
ONIXLINE ROTARY LOBE PUMP



ONIXline pump for conveying C starch

The ONIXline rotary lobe pump was designed using the most advanced flow simulation technology and decades of experience in rotary lobe pump construction.

PERFECTION DOWN TO THE LAST DETAIL

The ONIXline pump stands for gentle, practically pulsation-free pumping with maximized efficiency. The large sealing chamber makes the use of different sealing systems possible. The pump casing is equipped with integrated porting for the seals. A sealing circulation system can be connected via this porting. Alternatively, the porting can be used for seal flushing or barrier pressurization.



CONSTRUCTIVE BENEFITS

1 ***The quick-release cover***

Access to all wetted parts through the quick-release cover.

2 ***The optional casing protection***

The casing liners and casing protection plates protect the pump casing from wear.

3 ***The rotors***

The special rotor geometry with a 90° screw profile allows almost pulsation-free pumping with maximized efficiency.

4 ***The sealing area***

Adaption of various shaft seal configurations in voluminous sealing area feasible.

5 ***The carrier and timing gear***

Ensures the best efficiency combined with precise rotors and the flow-optimized pump casing.

6 ***Porting for circulation system***

Option to integrate a mechanical seal buffer, flush or circulation system (a.= inlet / b.= outlet)

MAINTENANCE® MIP IN PLACE BÖRGER

ONIXLINE AT A GLANCE

+ Flow-optimized casing design

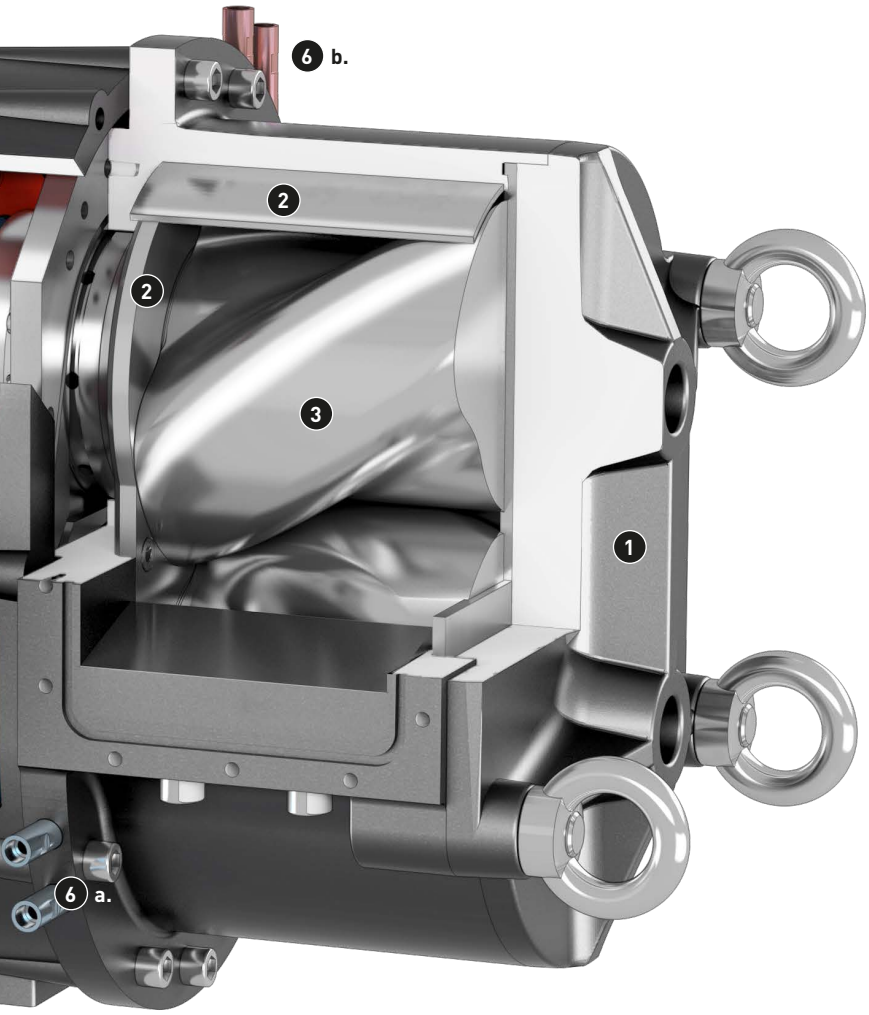
+ For pressure ranges of up to 16 bar

+ Almost pulsation-free pumping due to special rotor geometry

+ Large area for product-side shaft sealing systems available

+ Energy efficient

Pump series	Speed in rpm		Flow rate in m³/h		Max. pressure	Max. temp.
	Min.	Max.	Min.	Max.	in bar	in °C
ONIXline BJ 090	1	800	0.05	45	16	to 200
ONIXline BJ 140	1	800	0.08	65	13	to 200
ONIXline BL 190	1	800	0.11	90	16	to 200
ONIXline BL 280	1	800	0.17	135	13	to 200



WOULD YOU LIKE A BIT MORE? PRESSURE RESISTANT UP TO 16 BAR

The very robust carrier and timing gear combined with precise rotors in a flow-optimized casing ensure the best efficiency even at high pressures of up to 16 bar.

The ease of maintenance remains unchanged thanks to the cantilevered carrier design.



MULTI-FACETED AND SAFE
THE BÖRGER SEALS

In order to protect the gear unit or the atmosphere from the pumped medium, suitable shaft seals are very important. Börger offers different mechanical seals. Several supply systems for the seals can be selected.

SEAL VARIETY

Know-how gained from several decades of pump and mechanical seal construction has been used to build each Börger seal. In order to be able to select a seal which is perfectly suited to every single application, we offer different versions of our single- and double-acting mechanical seals.

Mechanical seals of other manufacturers can also be installed upon request. In addition, there is the option to integrate a quench chamber, flush or thermosiphon system.



SEALS AT A GLANCE

+ Single-acting and double-acting mechanical seals

+ Available as a cartridge unit

+ Many different material combinations possible

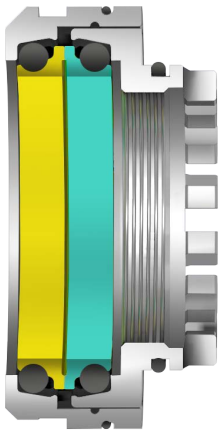
+ Special rotating holding bushes for fibrous media

+ Compliance with ATEX and TA Luft (Technical Instructions on Air Quality Control)

QUALITY AND DIVERSITY DOWN TO THE LAST DETAIL

Seal faces, elastomers and seal casings made of different materials make sure that the most resistant and durable materials are used for each pumped medium. All seal types are available as a cartridge unit and are simply replaced through the quick-release cover of the pump.

LW SEAL



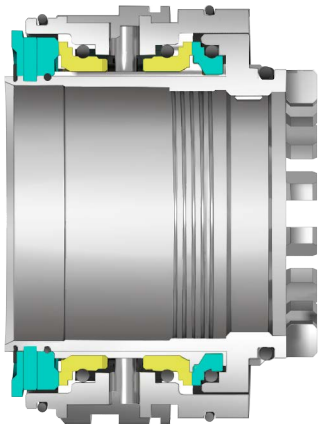
- *Single-acting*

FC SEAL



- *Single-acting*
- *Via axially arranged springs (unwetted)*
- *Torque transmission*

DA SEAL



- *Double-acting*
- *Via axially arranged springs (unwetted)*
- *Torque transmission*

GUIDELINE-COMPLIANT DESIGN
EVERYTHING IS POSSIBLE

All Börger pump units can be manufactured according to the European ATEX guidelines (2014/34/EU) intended for use in potentially explosive atmospheres.

In addition, an API-676-compliant design, production according to the FDA regulations or a technically tight pump design according to the German TA Luft requirements are possible.

Regardless of whether the pump units are stationary, mobile or submerged.

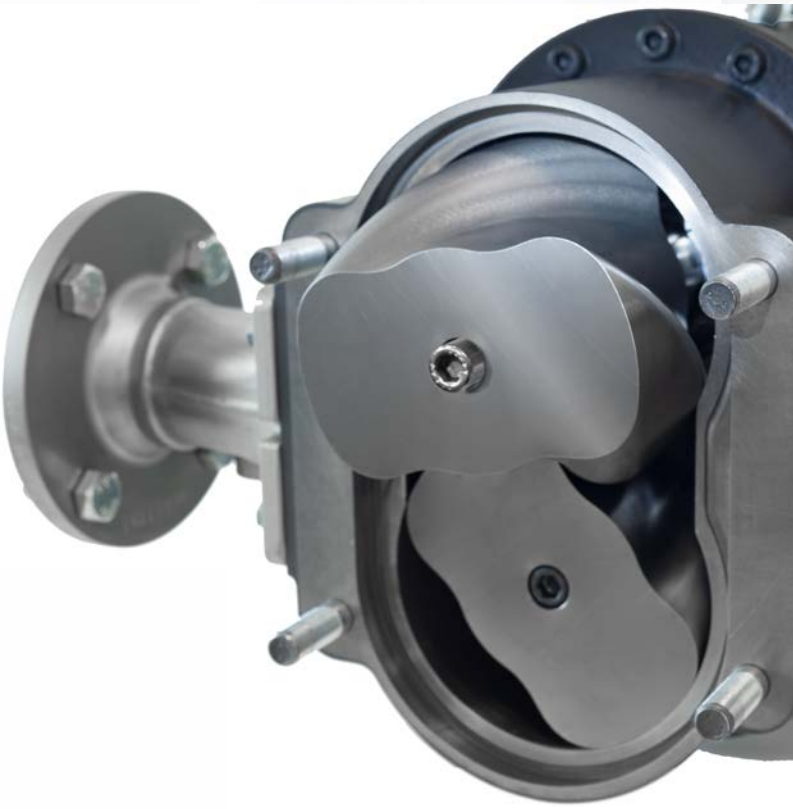


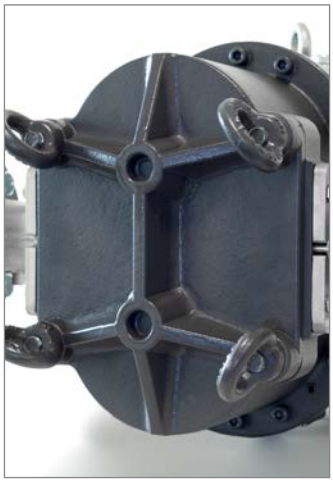
MAINTENANCE IN PLACE (MIP®)
SIMPLE. EASE OF MAINTENANCE.

Repairs and downtimes are time-consuming and costly. To maximize your production time with minimized interruptions, your operating and maintenance personnel can inspect and if necessary replace all product wetted parts onsite.

Börger pumps are designed for trouble-free, continuous operation and incorporate unbeatable ease of maintenance features. All components are extremely resilient and durable.

Instead of expensive maintenance contracts, Börger offers MIP® (Maintenance in Place). Control maintenance and repair procedures yourself. Product wetted parts can be replaced directly at the installation site of the pumps without the need to remove piping and the drive system. Easily and quickly, with smallest footprint, by your own personnel.











OVERPRESSURE PROTECTION
THE VARIOCAP



Rotary lobe pump and Variocap in ATEX-compliant design

The Variocap is an easy and effective option to install over-pressure protection at your Börger pump. Using a purely mechanical process, the pump is protected from uncontrolled pressure surges. Reversibility is maintained.

OPERATING PRINCIPLE

The force resulting from the pump pressure acts on the pump cover which consists of an outer ring and an inner, spring-loaded closing plate. As long as the spring force is larger than the pressure force in the pump chamber, the plate remains in the sealing position. As soon as the pressure exceeds the set spring force, the plate moves axially and allows the pumped medium to flow back from the pressure side to the suction side. When the pump pressure decreases, the gap closes again.

Due to an installed elastic seal diaphragm, the complete Variocap is hermetically sealed and the other moving parts are non-wetted. The Variocap is compliant with ATEX and TA Luft (Technical Instructions on Air Quality Control).

CONSTRUCTION

1 *Adjustment unit*

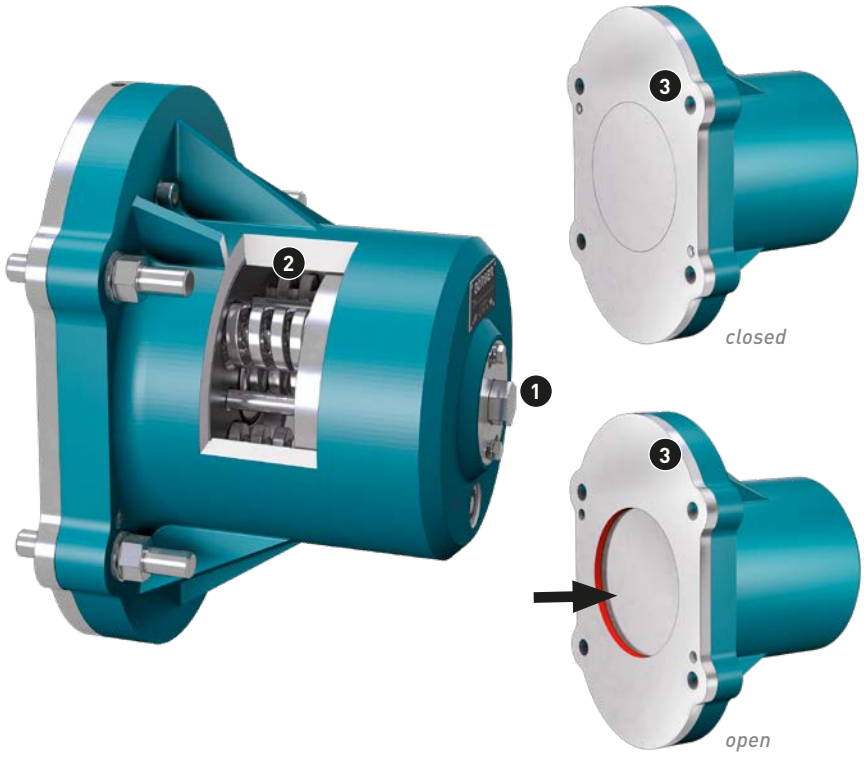
The opening pressure of the Variocap can be adjusted by simply turning the adjustment unit.

2 *The closing springs*

The closing springs are tensioned by means of the adjustment unit. The higher the tension, the higher the required pressure in the pump chamber for opening the Variocap.

3 *The closing plate*

The closing springs press against the closing plate. If the pressure in the pump chamber exceeds the set counter pressure of the closing springs, the closing plate is pressed backwards. Pressure is equalized in the pump chamber.



DIVERSITY DOWN TO THE LAST DETAIL
THE HEATABLE PUMP

To prevent sensitive fluids from cooling down during the pumping process, our pumps can be equipped with a heater casing and a heater cover.

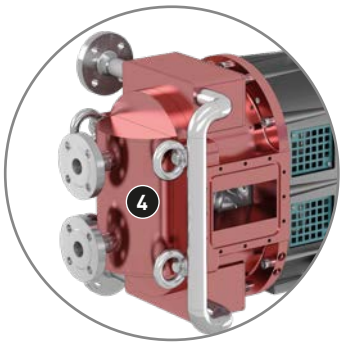


BLUEline pump with heater jacket and heater cover

OPERATING PRINCIPLE

The heater casing heats the pump chamber and prevents the pumped medium from cooling down. This way, for example, grease with a low melting point is prevented from hardening in the pump. Hot water, hot steam or thermal oil ensures that the heater casing is heated.

In addition to the heater casing, Börger pumps can be equipped with a heater cover. It is installed at the pump instead of the quick-release cover and increases the heating effect in the pump chamber.





CONSTRUCTION

1. ***The heater casing***
   The heater casing is installed instead of the pump casing.

2. ***The heat supply line***
   The heater casing is supplied with the heat carrier by means of the heat supply line.

3. ***The quick-release cover***
   *The quick-release cover closes the pump chamber. As an alternative a heating cover **[4]** can be installed which increases the heating effect in the pump chamber.*

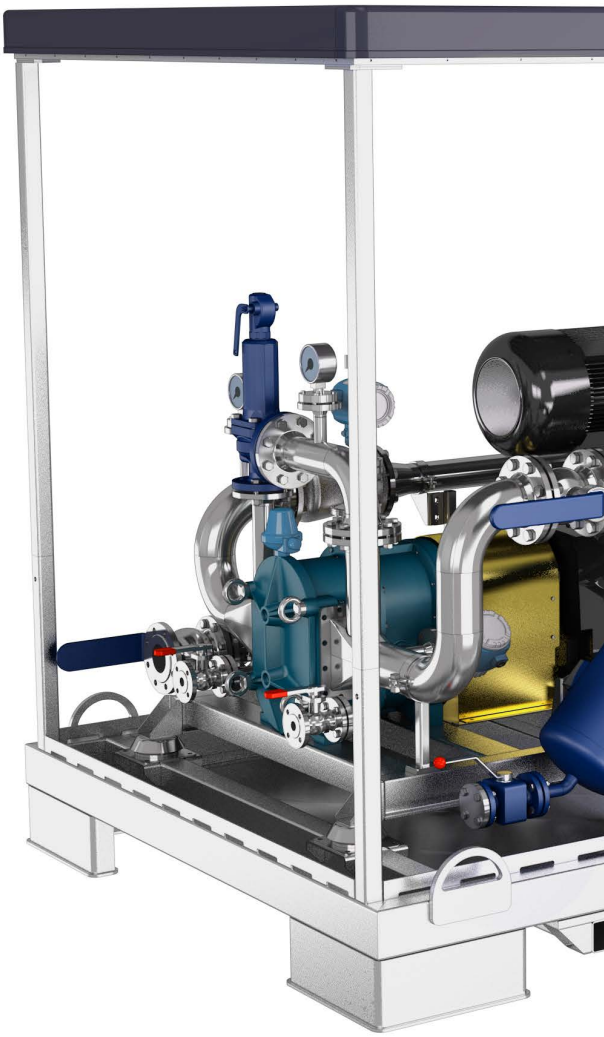
COMPLETE SOLUTIONS
EVERYTHING FROM A SINGLE SOURCE



Börger offers ready-to-connect solutions. Börger pump units are supplied from a single source. Börger designs and produces the base frame, the pump technology, the monitoring sensor system and the control technology themselves – in line with your requirements with perfectly matched components.

READY-TO-CONNECT COMPLETE UNITS

Börger builds each pump unit completely themselves. Our design department works hand in hand with the Börger departments of metal construction, machining and electrical engineering and control technology. Whether mobile or stationary, with filter unit or electronic flow meter, Börger configures the pump unit exactly to your specification.





TECHNICAL DOCUMENTATION

We prepare all necessary technical documentation for you. Our technical editors work closely with the sales engineers and our design department. Certified staff guarantees compliance with all guidelines. We prepare individual inspection records for the pump handover at our own pump testing facility.

COMPLETE SOLUTIONS AT A GLANCE

+ Customized

+ Perfectly matched components

+ Compliance with ATEX and TA Luft (Technical Instructions on Air Quality Control)

+ "Everything from a single source" – designed and built by Börger

+ Ready-to-connect complete units

+ API-676-compliant design







BÖRGER CONTROL TECHNOLOGY

Our engineers develop, program, build and professionally install the control technology tailored to your specific purpose in our electrical engineering department. All monitoring devices such as temperature monitoring, electronic seal monitoring or overpressure protection are controlled and monitored by the control technology which is easy to operate.

MOBILE PUMPS
CAN BE USED FLEXIBLY

Many sectors require flexible, mobile pump systems for deployment on short notice. Börger rotary lobe pumps are especially suitable for mobile use due to their compact design. As versatile as mobile pump solutions from Börger are, they have one thing in common: they are configured to the customers' specification.

The experiences of several hundred mobile units built are reflected in each Börger mobile pump. We offer complete solutions – the trailer, the pump technology and the electrical control. The rotary lobe pumps can be driven by an electric drive, a hydraulic motor, a combustion engine or the cardan shaft of a vehicle depending on the application.

HAND CART PUMP

The compact hand cart pumps can be pushed very easily to different application sites. As an aluminum lightweight version, the pump and drive can be carried to places which are difficult to access. Despite their compact size, the pumps are very powerful.



TANKER TRUCK PUMP

A large number of tanker trucks are on the road every day, transporting liquids from A to B. Local pumping stations for filling and emptying the tanker truck are not always available. Using a Börger rotary lobe pump is recommended for this purpose. Due to the high flow rate with smallest footprint and the option to operate in reverse, our pumps are the perfect tanker truck pumps and can be installed directly on the tanker truck.

MOBILE UNIT

If a very high flow rate is required, Börger pumps with flow rates of up to 1,440 m³/h are installed on car or truck trailers. The mobile unit can also be transported to the application site by a wheeled loader or a forklift truck. The pumps can be very easily operated by means of the user-friendly control element. Motor and pump activity are monitored and controlled on the basis of various parameters. All Börger mobile pumps can be manufactured for use in potentially explosive atmospheres.





MOBILE UNIT

BÖRGER SUBMERGED PUMPS
COMPACT AND CUSTOMIZED



Compact rotary lobe pump with submersible motor

Submerged and semi-submerged pumps are used if dry installation is not possible due to the NPSH value of the plant. The compact design, chemical resistance, variable flow rate and ability to pump highly viscous media without problems are the reasons why the Börger rotary lobe pump is an ideal submerged pump.



CONSTRUCTION

1. ***The drive***

   The motor of the pump shown remains outside of the medium. (alternative: submersible motor)

2. ***The installation cover***

   The dome cover can be supplied in all connection dimensions.

3. ***The coupling***

   The coupling connects the drive with the pump. The coupling is covered by a coupling guard tube.

4. ***The riser pipe***

   The medium is pumped upwards through this pipe.

5. ***The sealing and fill level indicators***

   monitor the fill levels of the intermediate chamber and gear unit. An electronic monitoring unit can be installed on request.

SUBMERGE PUMPS AT A GLANCE

+ Customized
+ Chemically resistant
+ Installation lengths according to the specific applications
+ Gentle pumping of shear-sensitive products
+ Short-term dry-run capability
+ API-676-compliant
+ ATEX-compliant

INDIVIDUALITY

Whether attached to an assembly plate or a wall bracket, installed on supporting feet or lowered by means of guide rails – there are hardly any limits when installing a Börger rotary lobe pump. Please find a selection of options here:

WITH ANGULAR ASSEMBLY PLATE



ON A WALL BRACKET



ON SUPPORTING FEET



SEMI-SUBMERGED PUMP WITH SLING BAR



WITH GUIDE RODS AND SUBMERSIBLE MOTOR



WITH BEVEL GEAR



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